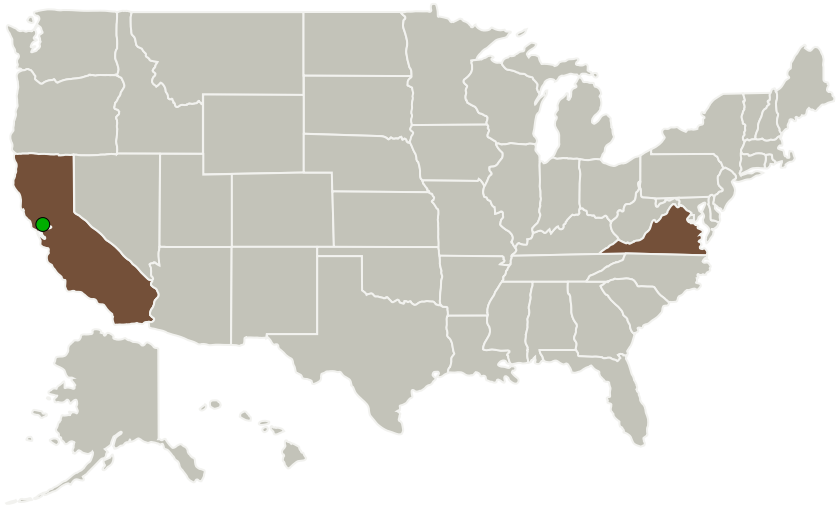
Unmanned Aerial Vehicle Integration into the NAS, Phase II

Completed Technology Project (2011 - 2013)

Project Introduction

Technological innovations have enabled a wide range of aerial vehicles that can be remotely operated. Viable applications include military missions, law enforcement, border patrol, weather data collection, telecommunications, land use imaging, and cargo transport. NASA and other organizations have invested heavily in this unmanned aerial vehicle (UAV) research. UAVs can be flown in the National Airspace System (NAS) today, but only with special permission from the FAA ⬭ a process that often takes 60 to 90 days. Moreover, permission is often contingent on heavy restrictions, such as accompanying the UAV with a manned chase plane, thereby nullifying the cost savings of a UAV. Full fruition of UAV technology will require incorporation of UAVs into mainstream air traffic management (ATM) practices, including traffic flow management flow control programs and possible creation of special use airspace (SUA). In this SBIR, we propose a UAV-to-traffic flow management (AIM-UAS) interface. This allows traffic managers to anticipate and track UAVs. In turn, this allows UAV operators to understand their impact on commercial air traffic and their involvement in traffic management activities.

Primary U.S. Work Locations and Key Partners



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Organizations Performing Work	Role	Type	Location
Metron Aviation, Inc.	Lead Organization	Industry	Dulles, Virginia
Ames Research Center(ARC)	Supporting Organization	NASA Center	Moffett Field, California

Primary U.S. Work Locations	
California	Virginia

Project Transitions

June 2011: Project Start

May 2013: Closed out

Closeout Documentation:

- Final Summary Chart*(https://techport.nasa.gov/file/139411)*

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Organization:

Metron Aviation, Inc.

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

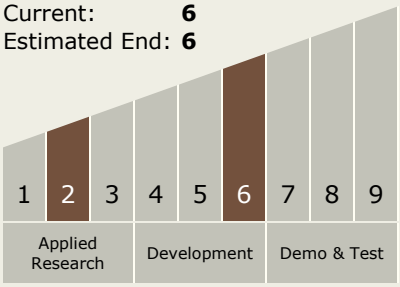
Carlos Torrez

Principal Investigator:

Robert E Hoffman

Technology Maturity (TRL)

Start: **2**
Current: **6**
Estimated End: **6**



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Technology Areas

Primary:

- TX16 Air Traffic Management and Range Tracking Systems
  - TX16.3 Traffic Management Concepts

Target Destinations

The Sun, Earth, The Moon, Mars, Others Inside the Solar System, Outside the Solar System